

DERWENT-ACC-NO: 1992-316130

DERWENT-WEEK: 199238

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TITLE: Aq. auto:oxidatively drying emulsion polymer, useful as
paint binder - by soln. polymerisation of glycidyl
methacrylate unsatd. fatty acid adduct and unsatd. acid,
and emulsion polymerisation with unsatd. monomers

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PRIORITY-DATA: 1991DE-4105134 (February 15, 1991)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9214763 A1	September 3, 1992	G	011	C08F 002/26
DE <u>4105134</u> C	October 8, 1992	N/A	004	C08F 265/02

DESIGNATED-STATES: JP US AT BE CH DE DK ES FR GB GR IT LU MC NL SE

CITED-DOCUMENTS: 1.Jnl.Ref; EP 305795 ; FR 2265833 ; JP 52102390 ; US
4122052

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
WO 9214763A1	N/A	1992WO-DE00107	February 13, 1992
DE 4105134C	N/A	1991DE-4105134	February 15, 1991

INT-CL (IPC): C08F002/06, C08F002/24 , C08F002/26 , C08F265/02 ,
C08F267/02 , C08F267/04 , C09D151/06

ABSTRACTED-PUB-NO: WO 9214763A

BASIC-ABSTRACT:

A process is claimed for the prodn. of an aq., autoxidatively drying emulsion polymer (I), by (a) normal solution polymerisation of (a1) an adduct of unsatd. fatty acid and glycidyl (meth)acrylate with (a2) (meth)acrylic, crotonic, fumaric or itaconic acid or maleic anhydride or a mixt. thereof to give (a3) a soln. polymer with acid no. 20-160 and M17 1500-80,000, contg. 15-60 wt.% unsatd. fatty acid component, followed by (b) partial neutralisation with amines or ammonia to degree of neutralisation = 0.4-0.9, and (c) normal emulsion polymerisation of the prod. with a combination of styrene, alpha-methylstyrene, p-methylstyrene and/or MMA with methyl and/or ethyl acrylate and/or butyl and/or 2-ethylhexyl (meth)acrylate, to give polymer (I) contg. 15-35 wt.% soln. polymer (a3) (w.r.t. solids content).

More specifically, acid monomer (a2) is methacrylic acid or maleic anhydride (5-25 wt.% w.r.t. a3), fatty acid in (a1) is a drying oil fatty acid, esp. soya bean oil fatty acid, linoleic and/or linolenic acid (35-50 wt.% w.r.t. a3); soln. polymer (a3) makes up 20-25 wt.% of (I) and has M17 = 30,000-40,000.

USE/ADVANTAGE - (I) is useful esp. as a paint binder; (I) is highly resistant to water, esp. salt water, and solvents, and enables the prodn. of paints with improved hardness and gloss, light and weather resistance, storage stability and shear stability (w.r.t. prior-art emulsion paints)

ABSTRACTED-PUB-NO: DE 4105134C

EQUIVALENT-ABSTRACTS:

An aq. emulsion polymer is prepd. by (a) normal soln. polymerisation of a monomer, obtd. by addn. of an unsatd. fatty acid to glycidyl (meth)acrylate, with one or more unsatd. acids chosen from (meth)acrylic acid, crotonic acid, fumaric acid, itaconic acid and maleic anhydride to form a polymer of acid number 20-160, average molar wt. 1500 to 80000 and contg. 15-60 wt.% unsatd. fatty acid (b) partially neutralising the polymer by addn. of amines or NH₃ to a deg. of neutralisation between 0.4 and 0.9 and (c) normal emulsion polymerisation of the partially neutralised polymer with at least one monomer from the gp. styrene, alpha-methylstyrene, p-methylstyrene and methylmethacrylate combined with at least one monomer from the gp. methyl-, ethyl-, butyl and 2-ethylhexyl-acrylate and butyl- and 2-ethylhexyl-methacrylate. The soln. polymer forms 15-35 wt.% of the final emulsion polymer.

USE/ADVANTAGE - The emulsion polymer dries auto-oxidatively and has improved properties for use as bonding agent for varnishesxi

CHOSEN-DRAWING: Dwg.0/0 Dwg.0/0

TITLE-TERMS: AQUEOUS AUTO OXIDATION DRY EMULSION POLYMER
USEFUL PAINT BIND

SOLUTION POLYMERISE GLYCIDYL METHACRYLATE
UNSATURATED FATTY ACID
ADDUCT UNSATURATED ACID EMULSION POLYMERISE
UNSATURATED MONOMER

DERWENT-CLASS: A13 A14 A82 G02

CPI-CODES: A04-B09; A04-C04; A04-C05; A04-F01A1; A07-B02; A07-B03; A10-B03;

A10-B04; A10-E21B; A12-B01B; G02-A02C; G02-A02C4; G02-A02D3;
G02-A02D4;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 0426U; 1173U ; 5020U ; 5027U ;
5341U

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0007 0035 0037 0038 0042 0206 0226 0228 0229 0231 0307 0314 0321
0412 0419 0433 0496 0503 0538 0545 0566 1173 1175 1236 1238 1282 1418 1425
1432

2024 2029 2043 2065 2066 2072 2105 2123 2177 2189 2206 2276 2573 2585 2593
2602

2605 2608 2609 2622 2651 2682 2794 3007 3014 3021 3035

Multipunch Codes: 014 02& 030 034 04- 051 055 056 057 058 06- 074 075 076 077
079 081 082 083 09- 104 105 106 107 116 130 133 135 137 145 15- 155 157 226 264
265 266 28& 318 324 353 397 516 521 532 536 541 543 546 548 549 551 560 561 57-
575 583 589 592 593 597 609 656 679 690 691 014 03& 03- 130 133 135 137 239 263
293 298 335 343 360 58- 689 723

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1992-140451